

**TECHNICAL REVIEW DOCUMENT**  
**for**  
**MODIFICATION TO OPERATING PERMIT 96OPAD130**

Public Service Co – Cherokee Station  
Adams County  
Source ID 0010001

Prepared by Jacqueline Joyce  
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Revised November 2006

**I. Purpose:**

This document establishes the decisions made regarding the requested modification to the Operating Permit for Public Service Company's Cherokee Station. This document provides information describing the type of modification and the changes made to the permit as requested by the source and the changes made due to the Division's analysis.

This document is designed for reference during review of the proposed permit by EPA and for future reference by the Division to aid in any additional permit modifications at this facility. The conclusions made in this report are based on the information provided in the request for modification submitted to the Division on September 18, 2006, e-mail correspondence and telephone conversations with the source. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

**II. Description of Permit Modification Request/Modification Type**

The Operating Permit for the Cherokee Station was issued on December 1, 2001. The source's request for modification indicates their intent to convert their coal car unloader from a rotary car dump system to a bottom dump system. The revised configuration would be capable of unloading either bottom or rotary dump cars, although bottom dumping would be the preferred mode of operation. The water spray system would be modified to control dust during both bottom and rotary dumping operations. The source indicated in the application that there would be no other changes to the coal handling system such as take-away feeder rates, conveyor speeds or drop points. In general, the permit is silent in regards to the method of dumping railcars (i.e. bottom vs. rotary dump); however, one of the fugitive dust control measures (Section II, Condition 5.2.7)

specifically indicates that the system is a rotary dump system. The source has requested that this condition be revised and requested that the modification be processed as a minor modification.

Typically, the Division has used the same emission factors for estimating emissions from bottom and rotary coal dumpers, where the only variable factors (besides the quantity of coal dumped) are the moisture content of the material and the wind speed (emission factors from AP-42, Section 13.2.4 (dated January 1995), equation 1). These emission factors predict no difference in emissions from bottom dumping or rotary dumping, although from a practical standpoint, one would expect less emissions from bottom dumping than rotary dumping.

Although coal is unloaded from rail cars in either option (bottom vs rotary dumping), this change could be considered a physical change in or a change in the method of operation of a stationary source, since the method of unloading the coal will change and physical modifications to the dumper will be made. As a result, this change is potentially subject to minor source permitting requirements (Colorado Regulation No. 3, Part B) and/or NSPS requirements. In addition, since the facility is a major stationary source, the change could be subject to PSD review requirements.

Under the minor source permitting requirements in Colorado Regulation No. 3, Part B, a physical change or change in the method of operation would be a modification if it resulted in an increase in the emission rate. The minor source permitting provisions are not clear as to whether this is an increase in annual actual emissions, annual potential emissions or hourly emissions. Although in practice the Division has basically viewed this as a change in annual potential emissions for permitted emission units (requires a permit modification to increase emissions) and for grandfathered units we would generally look at increases which would change the design rate of the unit (increase in hourly emissions or annual potential emissions). Since the same emission factors are used to estimate emissions from unloading via rotary or bottom dump there would not be an increase in emissions and the conversion from a rotary to a bottom dump would not be a modification under the minor source permitting requirements (Colorado Regulation No. 3, Part B).

Under the NSPS, the definition of a modification is any physical change or change in the method of operation that results in an increase in the emission rate and further defines the emission rate in terms of lbs/hr. As mentioned previously the source indicated that other than the modifications to change the dumping method (i.e. bottom vs rotary) and to revise the water spray system to accommodate bottom dumping, there will be no other changes to the coal handling system such as take-away feeder rates, conveyors speeds or drop points. Therefore it is not expected that there would be a change in the hourly emission rate. As discussed above, since emissions from bottom vs. rotary dumping are estimated using the same emission factors, there would not be an increase in emissions and the conversion would not be a modification under the NSPS.

A major modification is any physical change or change in the method of operation or, addition to, a major station source that would result in a significant net emissions increase. There is a specific test to determine if there is a net emission increase and

this test is based on the actual to potential test (pre-modification actual emissions are based on the two years prior to the change and post-modification actual emissions are based on potential to emit). The original Title V permit application listed the potential coal consumption of each boiler (541,368 tpy for Units 1 and 2, 729,708 tpy for Unit 3 and 1,369,188 tpy for Unit 4, total facility coal consumption at 3,181,632 tpy). Assuming a 25% cushion for onsite storage (3,877,040 tpy), a wind speed of 8.7 mph, a moisture content of 4.5% (per AP-42, Section 13.2, Table 13.2.4, mean moisture content of coal from coal-fired power plants) and using equation 1 in AP-42 Section 13.2.4, potential PM and PM<sub>10</sub> emissions from unloading are 3.11 tpy and 1.47 tpy, respectively. Since potential emissions from unloading are below the PSD significance levels (25 tpy for PM and 15 tpy for PM<sub>10</sub>), the proposed changes to the unloader are not considered a major modification and subject to PSD review requirements. Note that records of coal consumption from 1997 through 2005 indicate that coal consumed by the facility has not exceeded the potential facility coal consumption indicated by the original Title V permit application and the actual moisture content of the coal received is higher than 4.5 %. Therefore, the Division's emission analysis is conservative.

Since the proposed modification to revise the coal unloading station to allow bottom dumping does not trigger any permitting requirements or any NSPS requirements and does not result in an increase in emissions, the Division agrees that this modification can be processed as a minor modification, under the procedures in Colorado Regulation No. 3, Part C, Section X.

### **III. Modeling**

No changes to emission limitations are being made with this modification; therefore, no modeling is required.

### **IV. Discussion of Modifications Made**

#### **Source Requested Modifications**

The Division addressed the source's requested modifications as follows:

#### **Section II, Condition 5.2.7**

Condition 5.2.7 was revised in accordance with the proposed language included in the September 18, 2006 application.

#### **Other Modifications**

In addition to the requested modifications made by the source, the Division used this opportunity to include changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this modification.

The Division has made the following revisions, based on recent internal permit

processing decisions and EPA comments on other permits, to the Cherokee Station Operating Permit with the source's requested modifications. These changes are as follows:

#### Section I – General Activities and Summary

- Revised the language in Condition 1.4 to indicate that only the provisions in the last paragraph of Section IV, Condition 3.g are state-only enforceable.
- Revised the citations in Condition 3 to reflect recent revisions to Colorado Regulation No. 3.

#### Sections II.1 & 2 –Boilers – Coal and Natural Gas Firing

- In the previous modification, the Division removed the requirement in Section III.4 of the permit to submit a copy of the Acid Rain annual compliance certification to the Division. However, Conditions 1.14 and 2. 11 also include this requirement and the Division inadvertently failed to remove this language from the permit. At this time we are removing the requirement in Conditions 1.14 and 2.11 to submit a copy of the Acid Rain annual certification to the Division. The majority of Acid Rain submittals are now electronic; therefore, there is no copy available for submittal to the Division. The Division considers that the annual compliance certification serves as the certification that the Acid Rain requirements have been met.

#### Section II.4 – Emergency Generators

- Based on a similar comment made by EPA regarding natural gas and opacity, the Division revised the language in some conditions (in the table and text) to indicate that diesel fuel is the only fuel permitted for use in these emergency generators.

#### Section V – General Conditions

- Removed the statement in Condition 3.g (affirmative defense provisions) addressing EPA approval and state-only applicability. The EPA has approved the affirmative defense provisions, with one exception and the exception, which is state-only enforceable is identified in Section I, Condition 1.4.
- General Condition No. 21 (prompt deviation reporting) was revised to include the definition of prompt in 40 CFR Part 71.
- Replaced the phrase “enhanced monitoring” with “compliance assurance monitoring” in General Condition No. 22.d.

#### Appendices

- Replaced Appendices B and C with the latest versions.

